

What is claimed is:

1. A multi-band amplifier comprising:  
a first differential voltage-to-current converting circuit for converting a first frequency signal into a current signal;  
a second differential voltage-to-current converting circuit for converting a second frequency signal into a current signal;  
a current transposition point connected in phase with and in parallel with output terminals of the first and second differential voltage-to-current converting circuits; and  
a base-grounded amplifying circuit connected in phase with and in series with an output terminal of the current transposition point.
2. A multi-band amplifier according to claim 1, wherein the base-grounded amplifying circuit includes a base-grounded transistor grounded at a base thereof by the base-grounded capacitance.
3. A multi-band amplifier according to claim 1, wherein each of the first and second differential voltage-to-current converting circuits includes an RF operating section having a differential amplifying circuit, a direct-current bias circuit formed by a current mirror circuit, and an RF blocking resistance inserted in series in a manner separating between the RF operating section and the direct-current bias circuit.
4. A multi-band amplifier according to claim 1, wherein each of the first and second differential voltage-to-current converting circuits includes an RF operating section having a differential amplifying circuit and a direct-current bias circuit formed by a current mirror circuit, to directly connect between the RF operating section and the direct-current bias circuit.

5. A multi-band amplifier according to claim 1, wherein the first differential voltage-to-current converting circuit includes a first RF-current differential output terminal, and the second differential voltage-to-current converting circuit includes a second RF-current differential output terminal and the current transposition point includes an RF-current differential input terminal whereby, in the case the first frequency is higher than the second frequency, the RF-current transposition point is connected with a transposition line by a wiring in an upper level at between the first RF-current differential output terminal and the RF-current differential input terminal of the RF-current transposition point and by a wiring in a lower level at between the second RF-current differential output terminal and the RF-current differential input terminal of the RF-current transposition point.

6. A multi-band amplifier according to claim 1, further comprising one or a plurality of differential voltage-to-current converting circuits for converting a signal having a frequency different from the first and second frequencies into a current signal.